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ABSTRACT

Six thematic activity booklets are presented for implementing Project EAGLE, an enrichment program for gifted and talented primary-level children. "Animals 3" introduces endangered animals and locates their home areas on maps or globes, using nine learning activities involving science and creative writing. "Magnets" discusses what magnets are and how they work through experimentation and critical thinking. "Sight" deals with observations of the world and looking closely with magnifiers. "Geoboards 3" provides activities for manipulating, problem-solving, and recording geometric shapes using coordinates. "Dinosaurs 3" explores types of dinosaurs and examines how dinosaurs may have become extinct. "Groups 3" teaches classification of people and objects into groups based on variable attributes and introduces set theory. (JDD)

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Project EAGLE

(Early Academic Gifted Learning Experience)

ANIMALS 3

A Program for Gifted and Talented Students (Grades K-3)

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Somers Point, NJ
Graphics by Tim Faherty

EC 300168

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ANIMALS 3: Teaching Notes

PROJECT EAGLE booklets are centered around multi- and inter-disciplinary thematic concepts. The booklets are designed to be an accompaniment to the concept which should be introduced, reinforced and extended by the teacher during the period of study. Please see the Curriculum Guides in Project EAGLE Manual for more information.

Enrichment concept: Many animals are endangered because their natural habitats are disappearing.

Introduction: Display pictures of endangered animals and locate their home areas on maps or globes. Discuss how some animals are found only in one area while others are spread around on several continents.

Pages 1-2: Read and discuss the information. Look at the habitats on page two. Name each type and ask students to think of some of the plant and animal life that could be supported by each habitat. Finish the activity. Answers: Tiger-Rainforest/Jungle, Seahorse-Ocean, Roadrunner-Desert, Squirrel-Forest, Fish-Stream/Pond.

Page 3: Read and review the information. Show pictures of the animals listed and finish activity.

Pages 4-5: Self-explanatory.

Pages 6-7: Discuss mythical creatures: unicorns, the Loch Ness monster, Bigfoot etc.. Explain that some people do believe these animals exist but each person has to make up his or her own mind. (Discover, March 1988, has a good article on cryptozoology.) The creature pictured in the box does NOT exist. Finish the activity.

Pages 8-9: Self-explanatory.

Pages 10-11: Explain the idea of concrete poetry. Read the words and direct students to draw a faint shape of a shark in pencil. The words are written over the line to form a shark poem. Page eleven is the student's choice.

Page 12: Self-explanatory. Again, this is a non -competitive activity. Place less emphasis on "getting them all" and more on the diversity of animals named.

Extension: Give students a large world map, spinners and game pieces and let them create an endangered animal game.

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ANIMALS 3

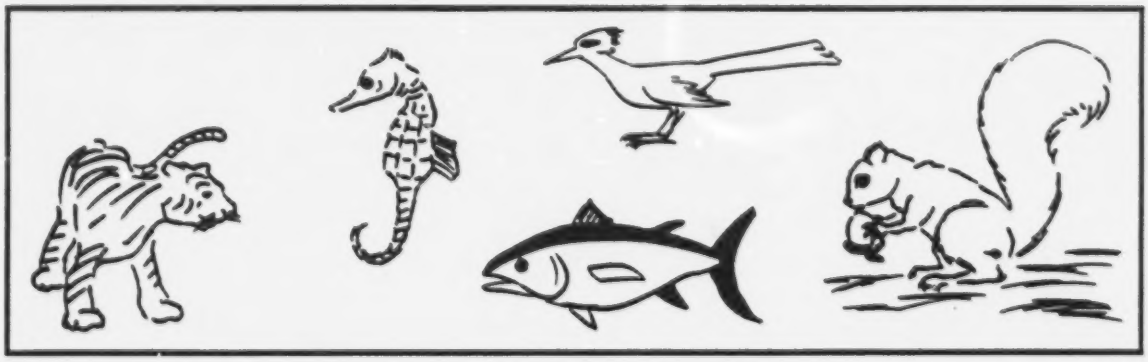
Name:_____

Date:_____

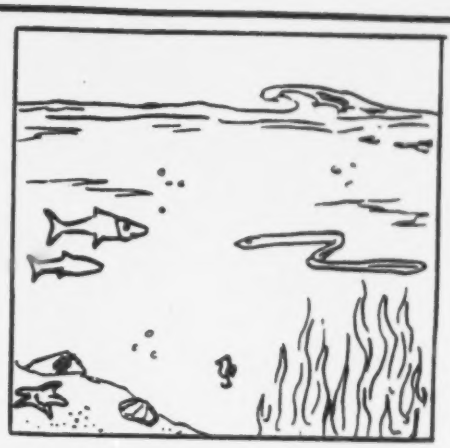
HABITAT

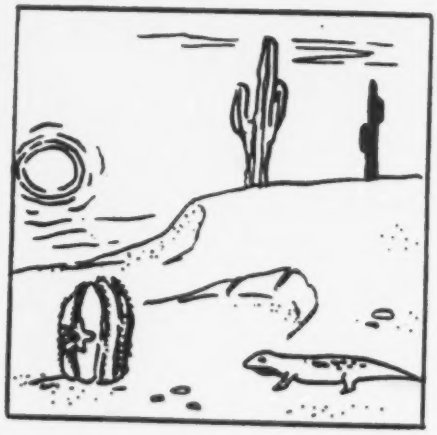
Some animals live in hot places, some in cold. Some animals live in trees and some live in water.
Where an animal lives is its habitat.
An animal must be able to get its food and water from its habitat.
A good habitat also makes it possible for an animal to hide or escape from its enemies.

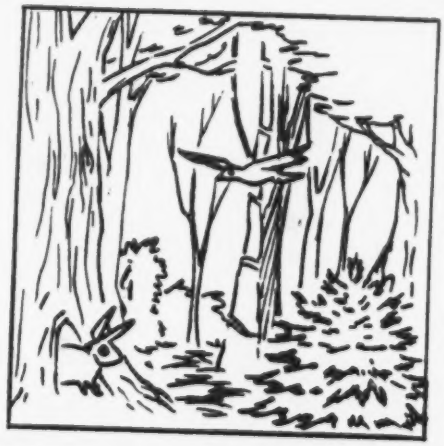
Color and cut out the pictures at the bottom of this page. Paste each one in the habitat on page 2 where they would be able to live the best.



HABITATS







ENDANGERED ANIMALS

Endangered animals often live in habitats that are no longer able to support the animals properly.
The jungle is a habitat for tigers, but people chop down more and more jungle every day. There is no longer enough room for many tigers in the jungle.
Some endangered animals have been hunted to the point where only a few remain today.
Scientists say there are about 150 mammals in danger of becoming extinct. Here are the names of some endangered animals. Write their names in the correct habitats:

polar bear blue whale tiger

panda whooping crane elephant

green turtle gorilla tree frog

jungle	ocean	forest	freshwater pond

ENDANGERED ANIMALS

Some endangered animals are making a comeback and their numbers are slowly increasing.
Other animals that used to live on the earth are no longer alive. They are extinct.
Many endangered animals are being protected by people to prevent them from becoming extinct.

Pretend you are an endangered animal.

What animal are you?_____

Write eight words that describe how you feel about being endangered:

_____

_____

_____

_____

_____

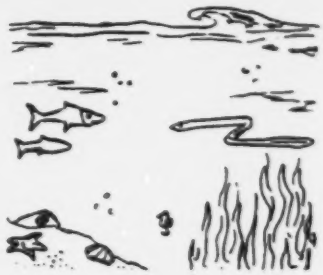
_____

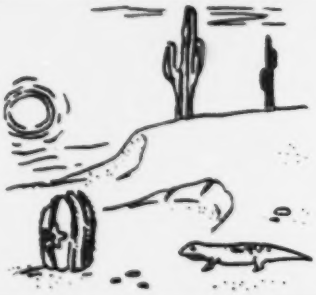
_____

_____

Draw a picture of yourself in the space above.

Look at the picture of each habitat. Write 3 words to describe each habitat.





Color the animal in the box.

Give the animal a name:

_____

Write 5 words that describe it:

_____

_____

_____

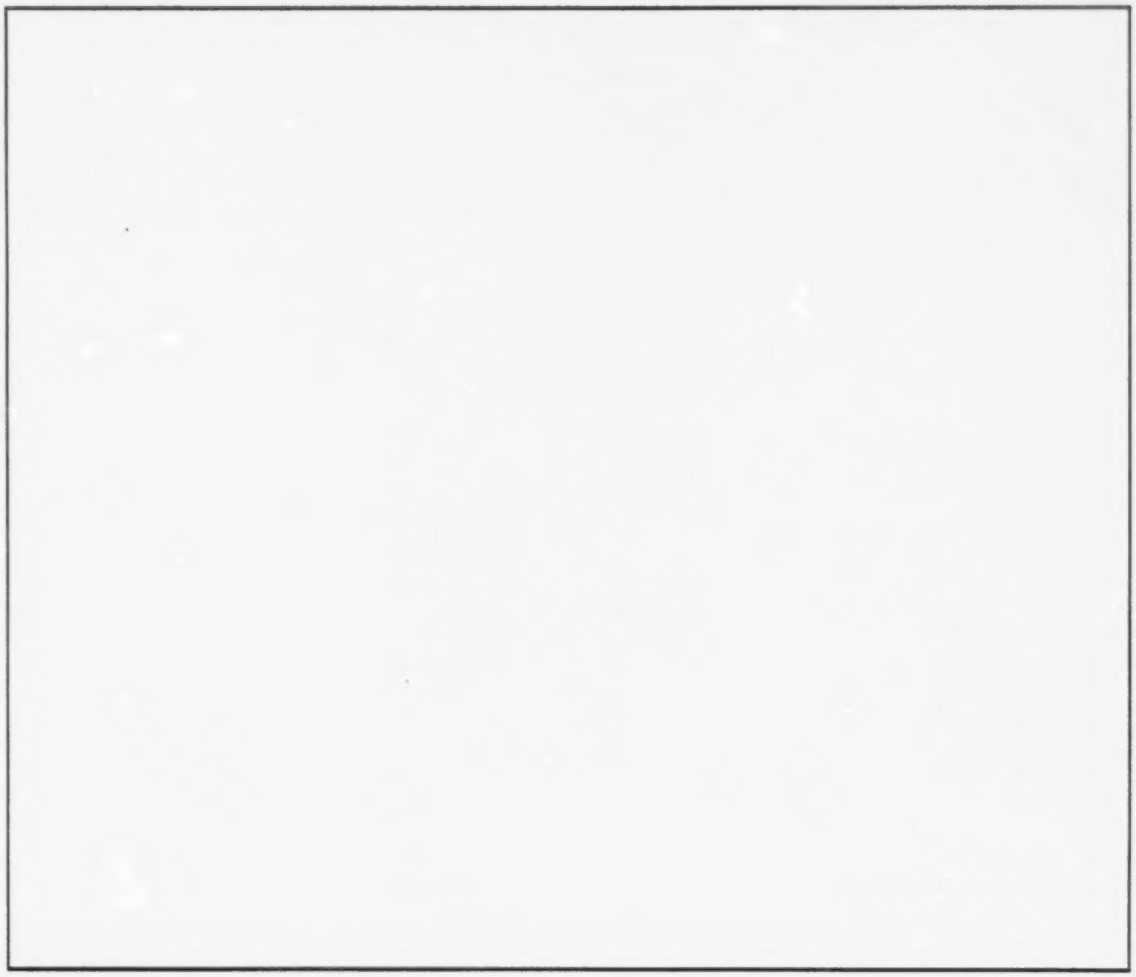
_____

_____

Use the words to write a story about the animal. Where did it come from? What does it eat? Where does it live? Write your story on page 7.

7.

Create your own creature. Make up an animal and draw it in the box.



Give your animal a name:_____

On page 9, write about the day it came to your school. What did it do? Where did it go? What did it learn?

9.

ANIMAL POEMS

Make a word list for the animal and use the words in the shape of that animal.

Example:

SHARK

teeth	swimmer
danger	tail
fins	jaws
gray	killer

ANIMAL POEM

11.

Choose an animal and write a word list:

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Make a poem in the shape of the animal:

ANIMAL ALPHABET

Try to think of the name of an animal for each letter of the alphabet:

A _____

B _____

C _____

D _____

E _____

F _____

G _____

H _____

I _____

J _____

K _____

L _____

M _____

N _____

O _____

P _____

Q _____

R _____

S _____

T _____

U _____

V _____

W _____

X _____

Y _____

Z _____

Project EAGLE

(Early Academic Gifted Learning Experience)

MAGNETS

A Program for
Gifted and Talented Students
(Grades K-3)

Kay Merkoski
Somers Point Public Schools
Somers Point, NJ
Graphics by Tim Faherty

MAGNETS: Teaching Notes

PROJECT EAGLE booklets are centered around multi- and inter-disciplinary thematic concepts. The booklets are designed to be an accompaniment to the concept which should be introduced, reinforced and extended by the teacher during the period of study. Please see the Curriculum Guides in Project EAGLE Manual for more information.

Enrichment concept: What magnets are and how they work.

Introduction: Distribute magnets and permit free manipulation and experimentation. Discuss student discoveries.

Page 1: Self-explanatory.

Page 2: Self-explanatory. Magnets are attracted to objects made of steel or iron.

Page 3: Experiment with different sizes of nails, different magnet shapes and time how long each nail holds its "magnetism."

Page 4: Self-explanatory.

Page 5: Draw lines in the box to show two opposite poles attracted to each other. Then, draw two like poles underneath and draw lines to show they repel each other.
A horseshoe magnet is usually the strongest because the poles are closer together and exert more force. The amount of force exerted is also affected by the size of the magnet.

Page 6: There is more magnetic energy at the poles than in the middle of the magnet where the opposing forces counterbalance each other. The iron filings cluster around the poles, drawn by the magnetic energy radiating outward from each pole. The iron filings are weakly magnetized and line up in response to the magnetic energy.

Page 7: Answers will vary.

Page 8: Self-explanatory.

Extension: Students may make an early navigational compass using small magnets, light blocks of wood and small bowls of water. The compass directions can be marked on the block of wood and the north end of the magnet appropriately placed.

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MAGNETS

Name _____

Date _____

This is a horseshoe magnet.

This is a bar magnet.

This is a U-shaped magnet.

What other magnet shapes do you have?
Draw them below:

Magnets attract or pull objects made from metal. Magnets are made of metal. Little particles inside magnets line up in a way that lets them pull other metal objects towards them.

Find out what objects a magnet will attract. Put an X next to any object that is attracted to a magnet.

Pencil_____	Paperclip_____
Penny_____	Soda can_____
Thumbtack_____	Eraser_____
Pin_____	Plastic cup_____
Comb_____	Nail_____

What materials were the objects attracted to the magnet made of?_____

_____

What materials are not attracted to magnets?

_____

MAKE YOUR OWN MAGNET

Use a bar magnet, a nail and tacks.
Try picking up the tacks with the nail. Now rub the nail against one end of the bar magnet 50 times.
Try to pick up the tacks with the nail again. The nail should pick up the tacks because the nail has become a magnet. The nail magnet's power won't last very long.

1. How many tacks did your nail magnet pick up at one time?_____

2. How long did your nail magnet's power remain?_____

3. What happens if you rub the nail against the bar magnet 100 times?

_____

_____

_____

4.

Use your magnets to make a shape or a design. Draw it below.

MAGNETS ARE POLES APART

Every magnet has a North Pole and a South Pole. Magnets are always strongest at their poles. Poles that are the same (North-North or South-South) repel or push away from each other. Poles that are opposite (North-South or South-North) attract or pull towards each other.

N S

Using the tacks or paper clips, find out which magnet is strongest by seeing how many tacks or paper clips it can pick up at one time.
Which magnet is the strongest?_____

Why?_____

_____

_____

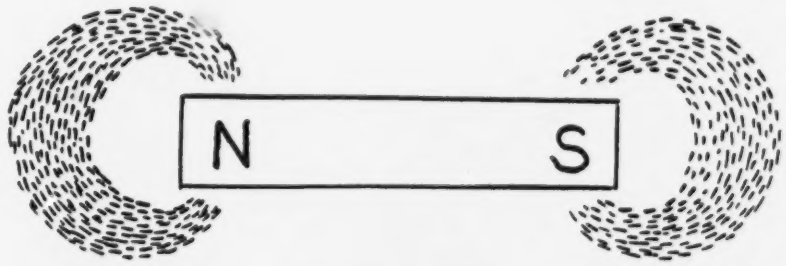
_____

6.

Look at the picture below. The iron filings are clustered around the magnet's poles. Why?_____

_____

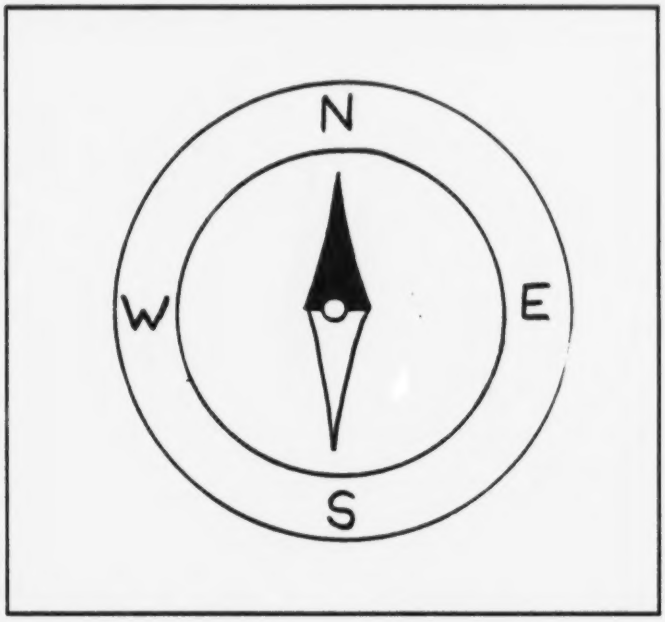
_____



Pour iron filings onto a piece of paper or plastic and see what shapes you can create with your magnets.

COMPASS

A compass tells you direction. It has a magnetic needle that spins around. The needle will point in the direction of magnetic north to help you find out where you are and which direction you can take.



What other ways can you think of to help people find out directions?_____

_____

_____

Magnets are found in rocks in many places in the world. Natural magnets are called lodestones which means "way stones." The Chinese were probably the first people to build compasses to help them find directions. By the 12 century, Western sailors were using lodestone disks engraved with the compass points on a piece of wood. The wood floated in a bowl of water to allow the lodestone to move around freely.
Draw a picture of what an early compass looked like.

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SIGHT

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SIGHT: Teaching Notes

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Enrichment concept: Observations of the world; looking closely with magnifiers.

Introduction: Show students some optical illusions and ask them to describe what they see. After a discussion period, explain that illusions trick the eye and the brain. Briefly explain how the retina is stimulated and information passes along the optic nerve to the brain where vision occurs.

Pages 1-2: Explain that when a striped animal is seen, people automatically think it will be a zebra or a tiger. But what would a tiger look like and be like if it had feathers? Would it fly or still stalk animals in the jungle? Would it still be able to blend into the background? Finish the activity.

Page 3: Issue plastic magnifiers and direct students to examine the items and then draw what they saw in the appropriate spaces. How are these images different from seeing the objects without magnifiers?

Pages 4-5: Self-explanatory.

Page 6: Encourage students to think of what items could be seen in space. Permit fanciful answers as well as factual responses.

Page 7: Self-explanatory.

Extension: Discuss how magnifiers work. Experiment with convex and concave lenses. Discuss why people may need glasses to see properly.

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SIGHT

Name _____

Date _____

This is a tiger. Tigers have striped fur. What would a tiger look like if it had feathers? Would you still call it a tiger? How would it be different? Draw a picture of a tiger with feathers and write about it on page 2.

2.

Look at the objects with your magnifier. Draw what you see below. Pick your own object for the last box.

SUGAR	SKIN ON BACK OF HAND
CLOTH	**LEAF**
PIECE OF NEWSPAPER	

4.

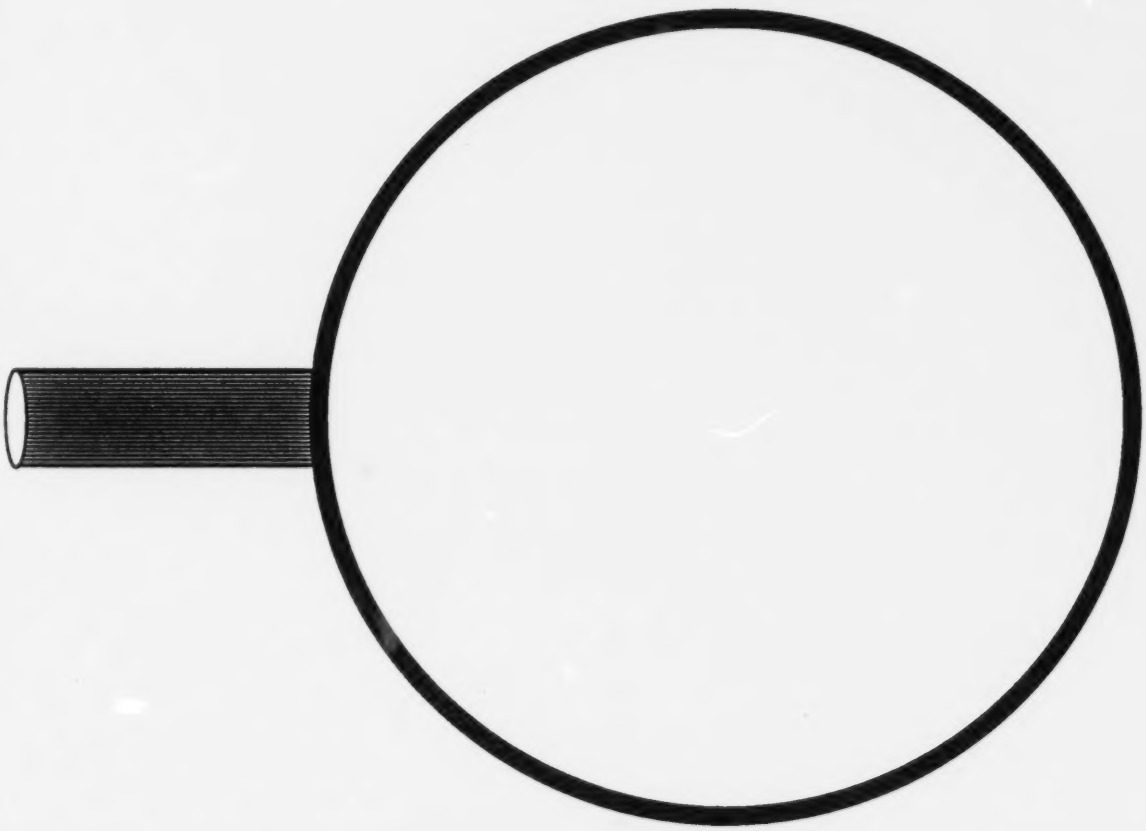
Draw an object that is square-shaped in the box below. (Examples: a box, a house or a table.)

Now draw the same object as if it were egg-shaped.

What would you name it? _____

5.

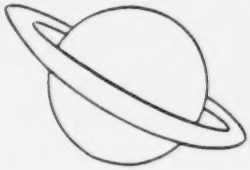
You have found a strange creature.
Draw it in the magnifying glass.



What are you going to do with it?

6.

You are approaching this planet.
Draw your spaceship and color it in.
Draw anything else you might see.



7.

Finish this picture.

What is it?_____

Project EAGLE

(Early Academic Gifted Learning Experience)

GEOBOARDS 3

A Program for
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(Grades K-3)

Kay Merkoski
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Somers Point, NJ
Graphics by Tim Faherty

GEOBOARDS 3: Teaching Notes

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Enrichment concept: The manipulation, problem-solving and recording of geometric shapes using coordinates.

Introduction: Make a large floor grid matching the geoboard coordinates. Direct students to stand on and move around to various "pegs" on the grid. Long pieces of string can be given to the students to make a variety of shapes as they move around on the grid.

Pages 1-3: Introduce the word coordinate as a way to find an object's position. Name various coordinates and have students point to the correct peg on the geoboard. When working through these pages, emphasize that coordinates refer to the pegs which are the corners, or anchors, of each shape. Pegs in-between are not named as coordinates.

Page 4: Self-explanatory. Make sure students are only writing down the anchor pegs or coordinates.

Pages 5-7: Self-explanatory.

Extension: Use student designs to make up a list of coordinates for each design and challenge other students to recreate these designs on their geoboards. For example: Can you make Sean's design with the following coordinates? What shape is it?

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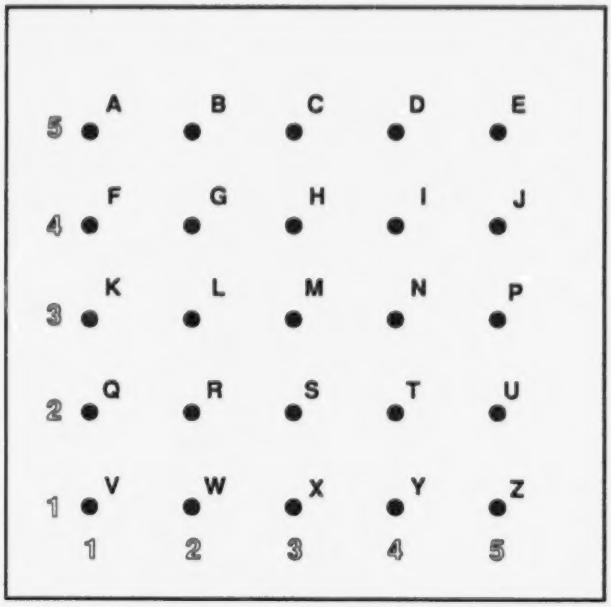
GEOBOARDS 3



Name:_____

Look at your geoboard and find the following pegs:

Find 1,V	Find 2,Q
Find 4,Y	Find 3,N
Find 4,F	Find 4,H
Find 3,P	Find 2,R
Find 5,C	Find 5,U

Make the shapes and copy them on the next page:

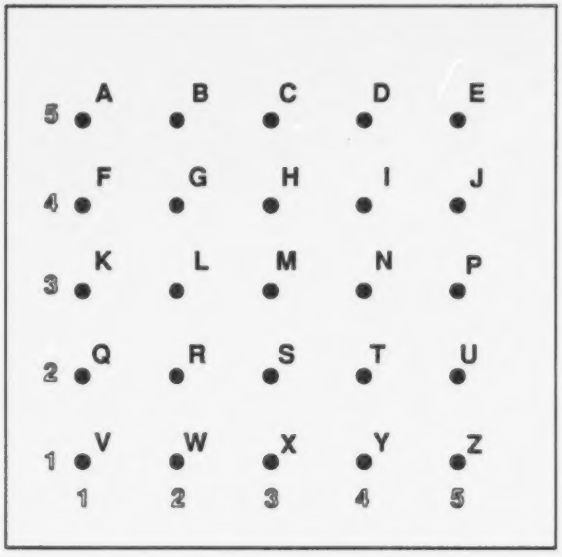
1. Make a triangle: 2,W 3,M 4,Y

2. Make a square: 2,Q 4,F 4,H 2,S

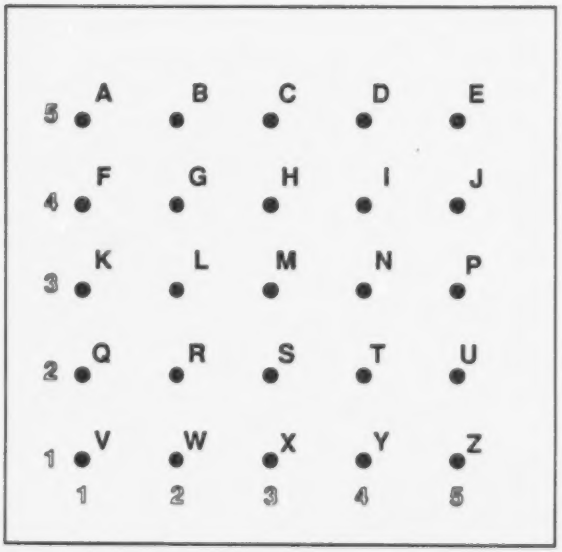
3. Make a star: 2,R 4,H 2,T
(one rubber band)
3,L 3,X 3,N
(another rubber band)

4. Make a hexagon: 5,B 5,D
4,F 4,J
3,L 3,N

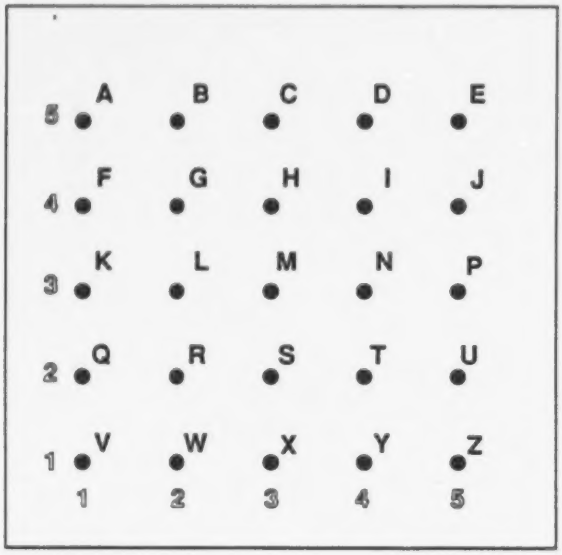
1. TRIANGLE



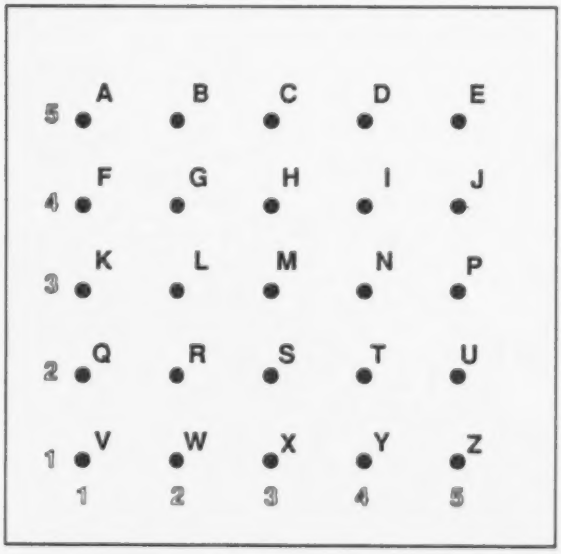
2. SQUARE



3. STAR



4. HEXAGON



WHAT SHAPE WILL YOU MAKE USING THESE GEOBOARD PEGS?

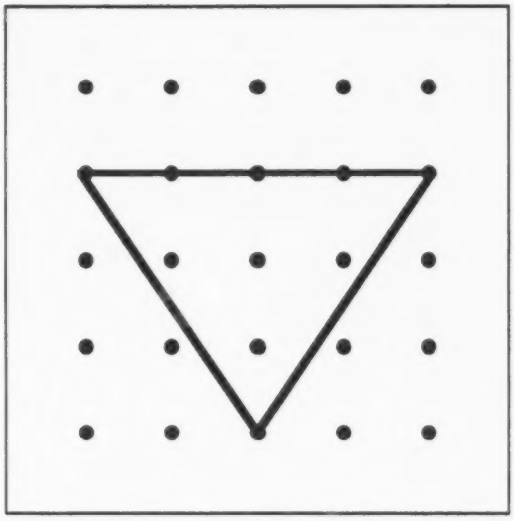
3,K 5,C 3,P _____

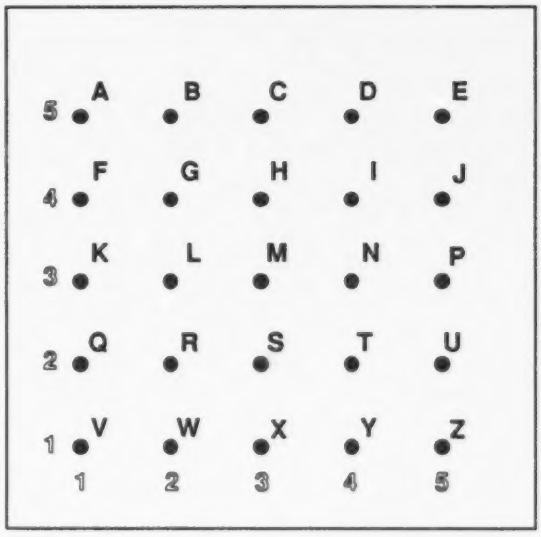
MAKE YOUR OWN SHAPES AND WRITE DOWN THE NUMBERS:

SHAPE	NUMBERS
_____	_____
_____	_____
_____	_____
_____	_____

Make the first shape on your geoboard. Change it into another shape and copy it on the geoboard next to it.

5.





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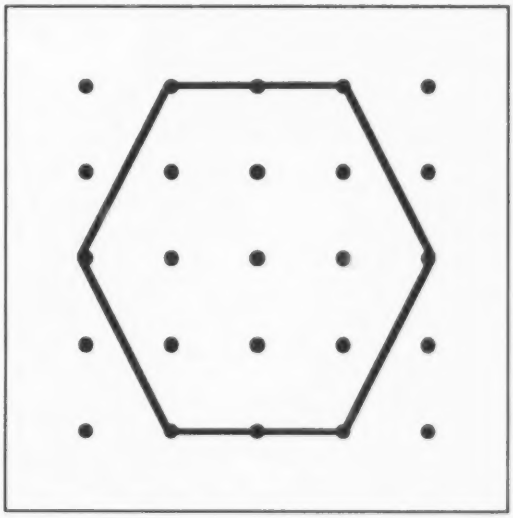
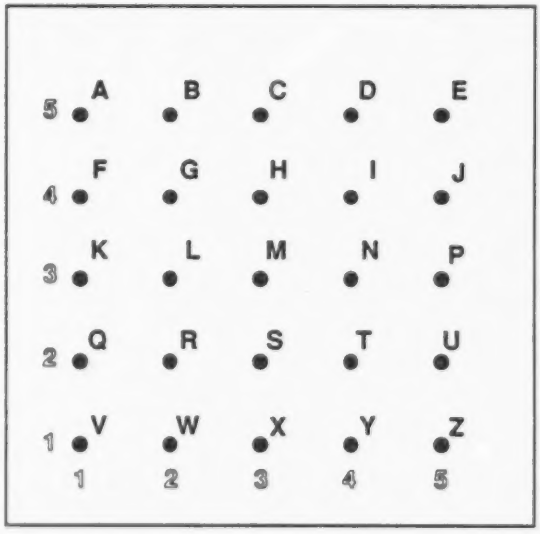
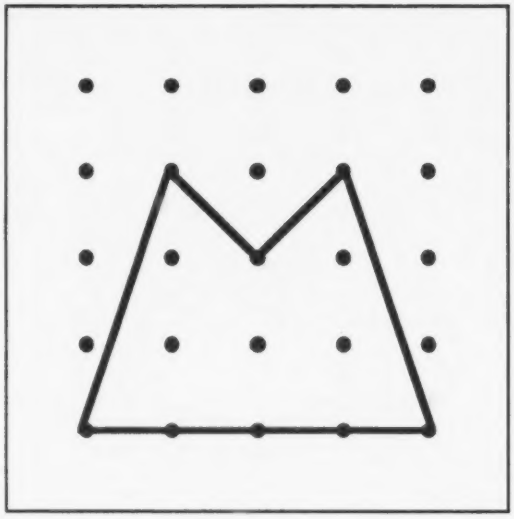
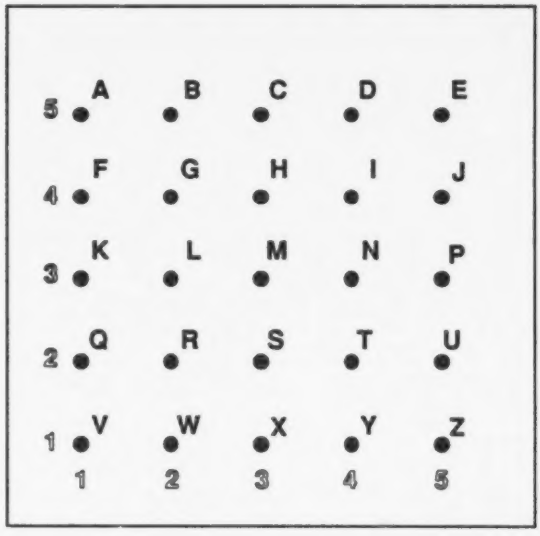




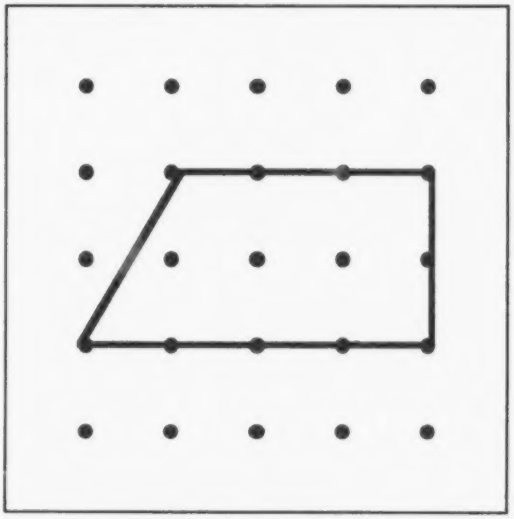
Make the first shape on your geoboard. Change it into another shape and copy it on the geoboard next to it. Also, write down the numbers and letters for each peg looped by a band.

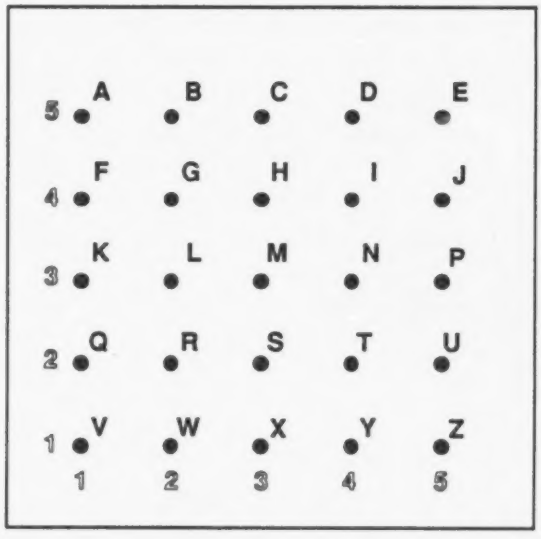
7.



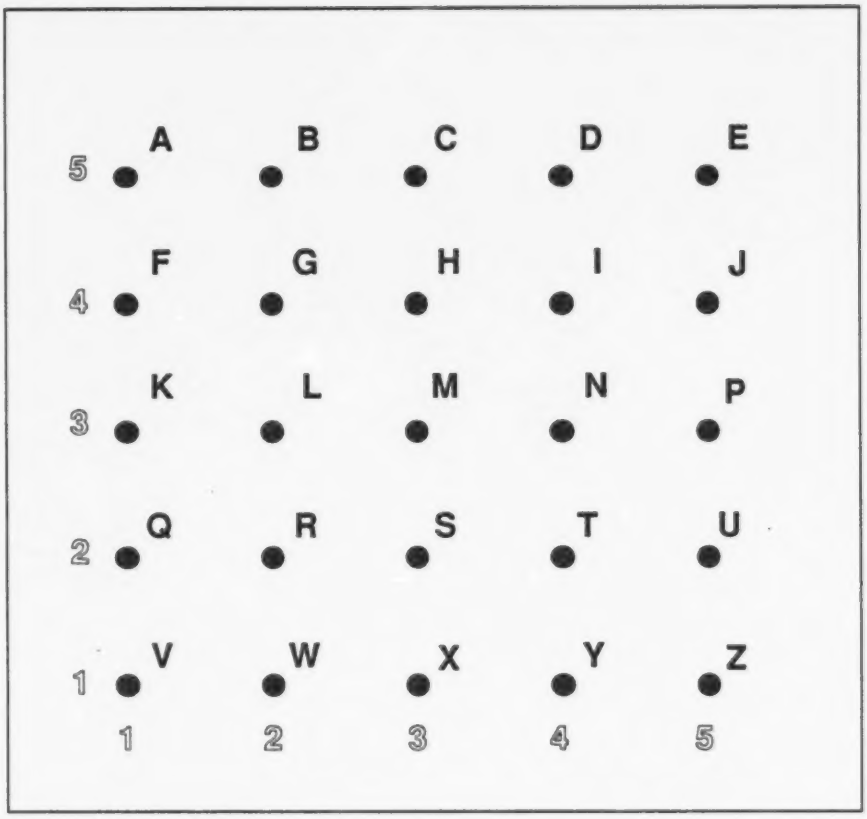


8.





Instructions: Make your own design on your geoboard and then copy it here.



Give your shape a name:

_____

_____

Project EAGLE

(Early Academic Gifted Learning Experience)

DINOSAURS 3

A Program for
Gifted and Talented Students
(Grades K-3)

Kay Merkoski
Somers Point Public Schools
Somers Point, NJ
Graphics by Tim Faherty

DINOSAURS 3: Teaching Notes

PROJECT EAGLE booklets are centered around multi- and inter-disciplinary thematic concepts. The booklets are designed to be an accompaniment to the concept which should be introduced, reinforced and extended by the teacher during the period of study. Please see the Curriculum Guides in Project EAGLE Manual for more information.

Enrichment concept: How dinosaurs may have become extinct.

Introduction: Discuss with students a time line of dinosaurs. Point out that not all dinosaurs lived at the same time; some died out and others evolved. Small mammals and flowers emerged toward the end of the dinosaur era. Suddenly, the dinosaur era ends. Why? In this booklet, the student is going to find out about some ideas scientists have to explain this sudden end.

Pages 1-2: Self-explanatory. Go over to check recall.

Pages 3-4: Emphasize that no people lived at the same time as the dinosaurs. Encourage students to place their dinosaurs in the proper environment.

Page 5: The teacher may wish to specify the minimum number of letters in a word for it to be accepted. Emphasize the fun; this is not a competition.

Page 6: After students complete this page individually, share the creations with group members and discuss how they are alike and how they are different.

Page 7: Read, explain and discuss the information. Recent articles and videos are appropriate for extended review and discussion of this topic.

Page 8: This page reflects the student's opinion. It does not have to be one of the theories from page seven.

Page 9: Self-explanatory.

Extension: Students could create a dinosaur time line play in which each student takes the part of a dinosaur and appears and disappears. A narrator gives a brief description of each dinosaur and at the end, all have died out.

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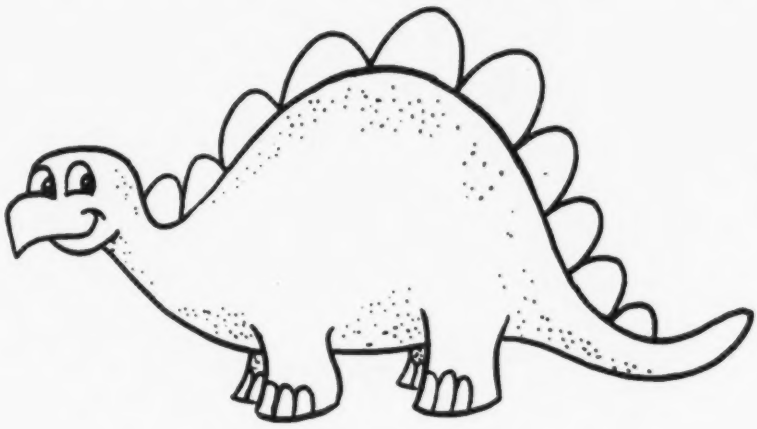
DINOSAURS III

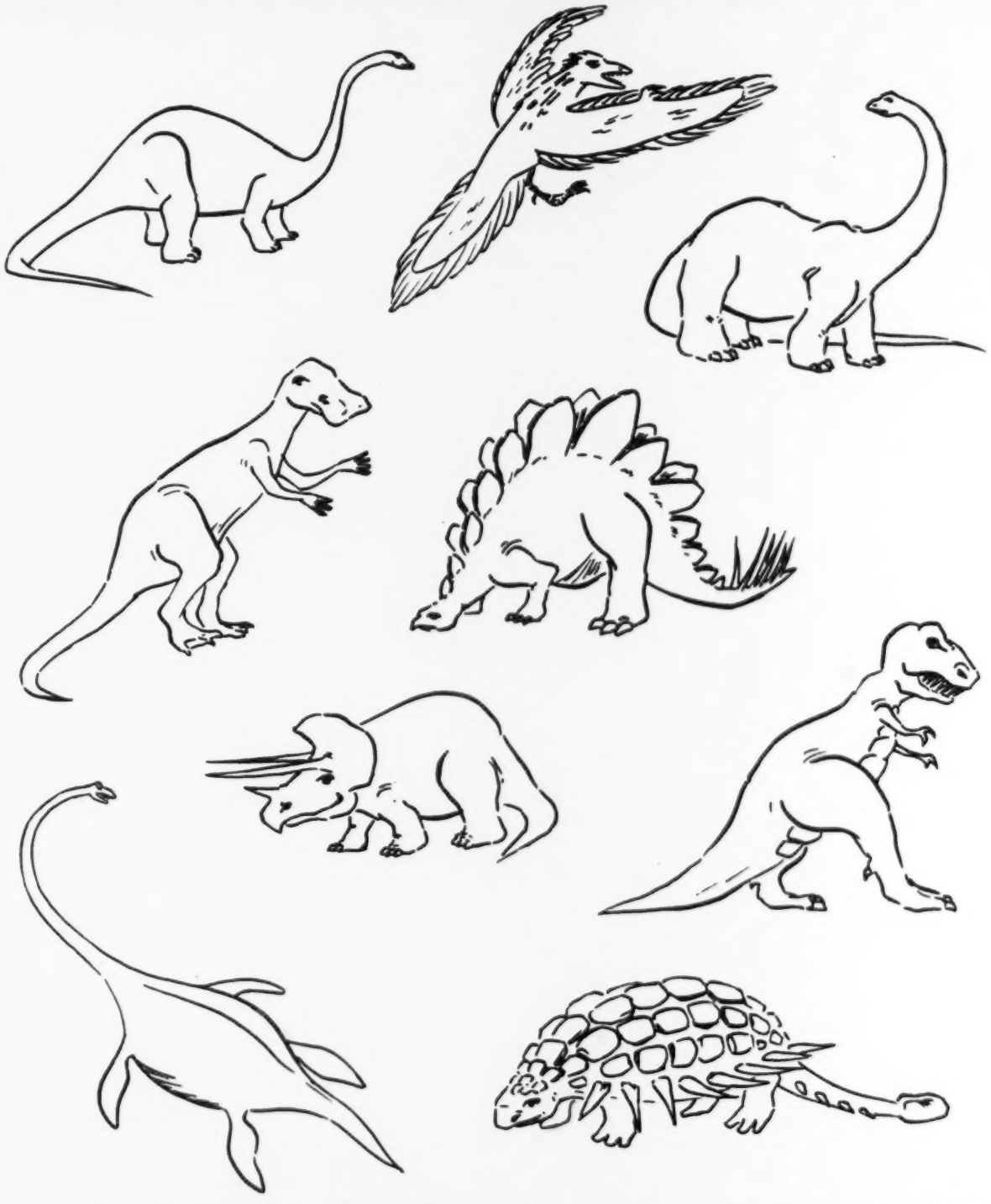


Name _____

Date _____

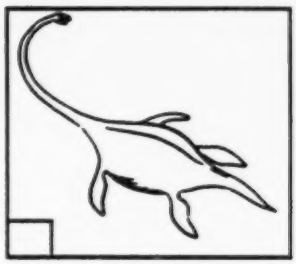
1.

Color and name the dinosaurs.



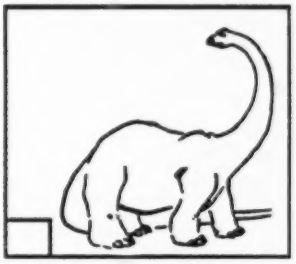
Read the clues about each dinosaur. Look at the pictures and then look at the names of the dinosaurs in the box below. Match the dinosaur with its name.

1. Triceratops: It had three horns and ate plants. It could grow to be 10 feet tall and 25 feet long.



2. Apatosaurus: It had small teeth and ate plants. It often stood in water to avoid meat-eating dinosaurs. It was very big and had a long neck.

3. Elasmosaurus: It had a body like a turtle and a neck like a snake. Its feet were flippers. It lived in water but laid its eggs on land.



4. Stegosaurus: It had many bony plates on its back and four sharp horns on its tail. It used its tail to fight other dinosaurs even though it only ate plants.

3.

Dinosaurs first appeared about 210 million years ago, long before mammals. There were no people or dogs, and for most of the time dinosaurs lived, there were no birds or flowers.

Draw a picture of your favorite dinosaur. Write a short story about it on this page and the next page. (Think about where it lives, what it looks like, and whether it eats plants or meat.)

4.

5.

How many words can you make using the letters in the word ELASMOSAURUS?

6.

Draw a dinosaur that has the following:

1. a body like ankylosaurus
2. flippers like elasmosaurus
3. a tail like stegosaurus
4. a neck like diplodocus
5. a head like trachodon
6. teeth like tyrannosaurus

Name your dinosaur. _____

Where does it live? _____

What does it eat? _____

What else is special about your dinosaur? _____

_____

_____

_____

Why are dinosaurs extinct?

Dinosaurs ruled the earth for about 140 million years. About 65 million years ago, all of the dinosaurs suddenly died out.
No one knows what happened, but after studying fossils and earth samples, scientists have made several guesses:

1. A huge meteorite or star crashed into the earth. The heat from the explosion made the earth very hot and could have killed many dinosaurs.

2. A huge meteorite or star crashed into the earth. Dust from the explosion could have blocked all sunlight. The earth became cooler and many dinosaurs couldn't stay warm. Most plants died, too.

3. A volcano exploded and destroyed some of the ozone layer which protects living things from the sun's harmful ultra-violet rays. Without that protection, dinosaurs became too hot and died.

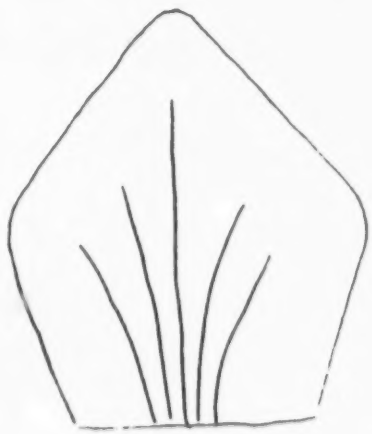
4. The earth entered another Ice Age when temperatures became much cooler and dinosaurs were unable to stay warm.

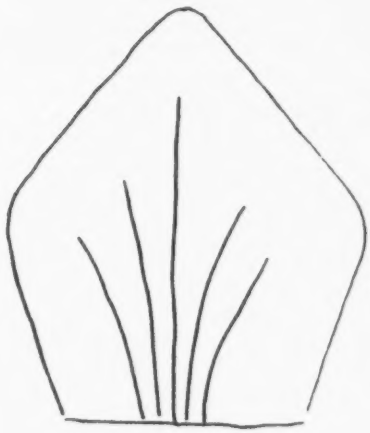
8.

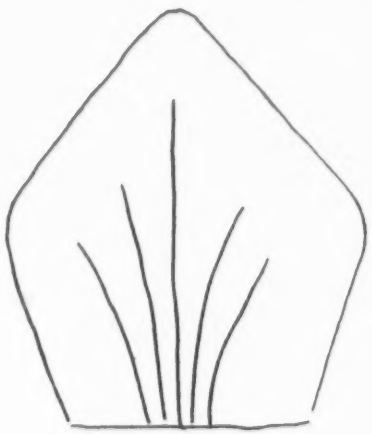
How do you think the dinosaurs became extinct? Draw and color a picture of how the dinosaurs died and explain what happened below.

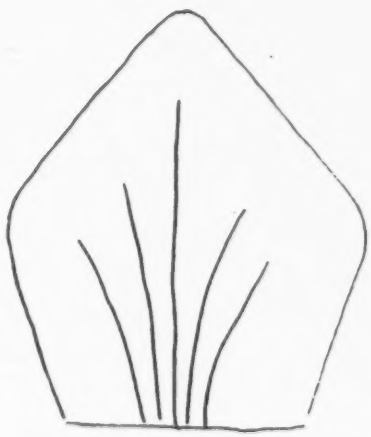
9.

How many different pictures can you make with the stegosaurus plates?









Project EAGLE

(Early Academic Gifted Learning Experience)

GROUPS 3

A Program for
Gifted and Talented Students
(Grades K-3)

Kay Merkoski
Somers Point Public Schools
Somers Point, NJ
Graphics by Tim Faherty

GROUPS 3: Teaching Notes

PROJECT EAGLE booklets are centered around multi- and inter-disciplinary thematic concepts. The booklets are designed to be an accompaniment to the concept which should be introduced, reinforced and extended by the teacher during the period of study. Please see the Curriculum Guides in Project EAGLE Manual for more information.

Enrichment concept: People and objects can be classsified into groups based on variable attributes.

Introduction: Have students clip pictures from magazines and make group collages.

Pages 1-2: Self-explanatory. Accept a variety of answers.

Pages 3-4: Help students fill in the simple Venn diagram. Explain that sometimes objects can fit into more than one group and it makes it easier to group things by placing them in overlapping circles.

Pages 5-6: Self-explanatory.

Pages 7-8: Students should mark an "X" in the box where each object belongs and mark an "O" in boxes where the object cannot belong.

Page 9: Students make their own groups and share their work.

Extension: Challenge the students to develop individual grid logic puzzles and share.

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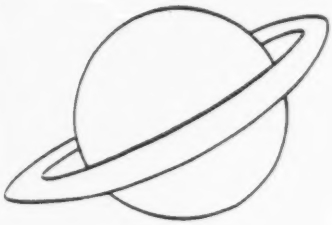
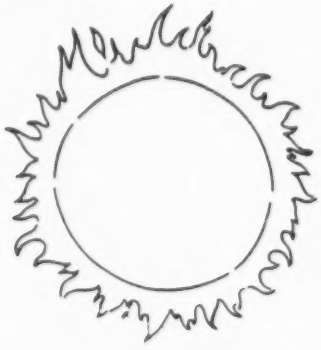
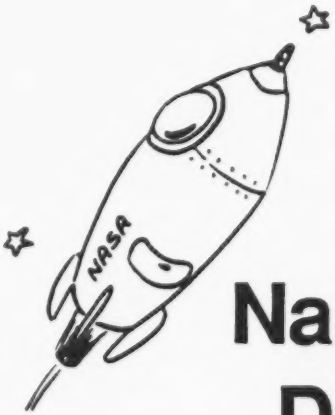


GROUPS III





Name _____

Date _____

1.

Similarities are ways in which things, people or ideas are the same.
Differences are ways in which things, people or ideas are NOT the same.

How are the bicycle and the wagon similar?

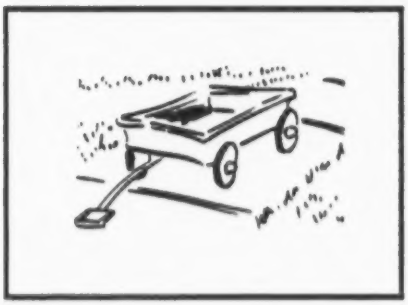
_____

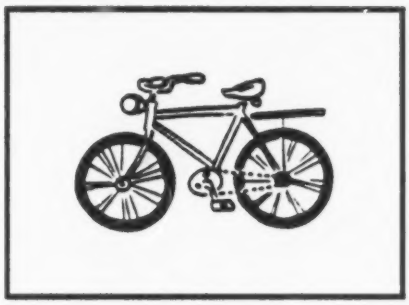
_____

How are they different?

_____

_____





Which is more similar to a car, a bicycle or a skateboard? _____

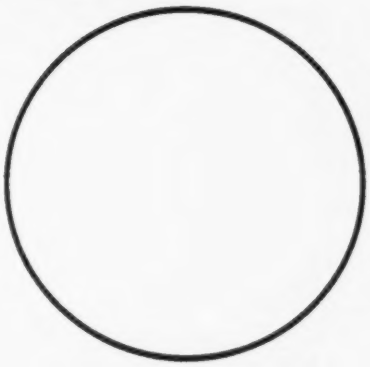
Why? _____

_____

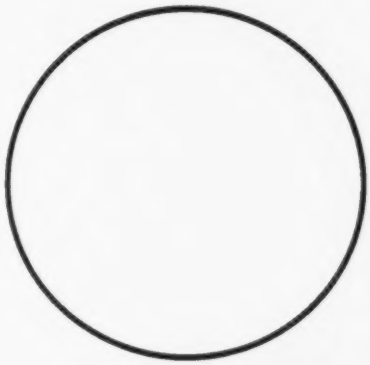
Look at the words in each box. Think about why they are similar and add a word that would fit the group.

crab starfish clam _____	soda apple juice iced tea _____
roof mountain tower _____	walk run hop _____
cabin nest palace _____	beak wings legs _____
wet damp squishy _____	sun planet star _____

Sometimes, objects fit into more than one group.

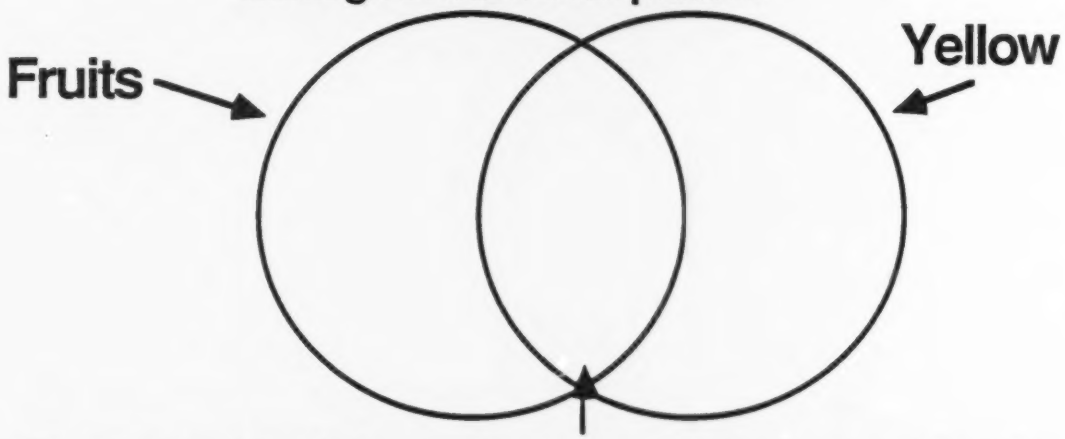


This circle contains things in the group "yellow."
Draw in:
- the sun
- the moon
- a crayon



This circle contains things in the group "fruits."
Draw in:
- a banana
- grapes
- an apple
- a lemon

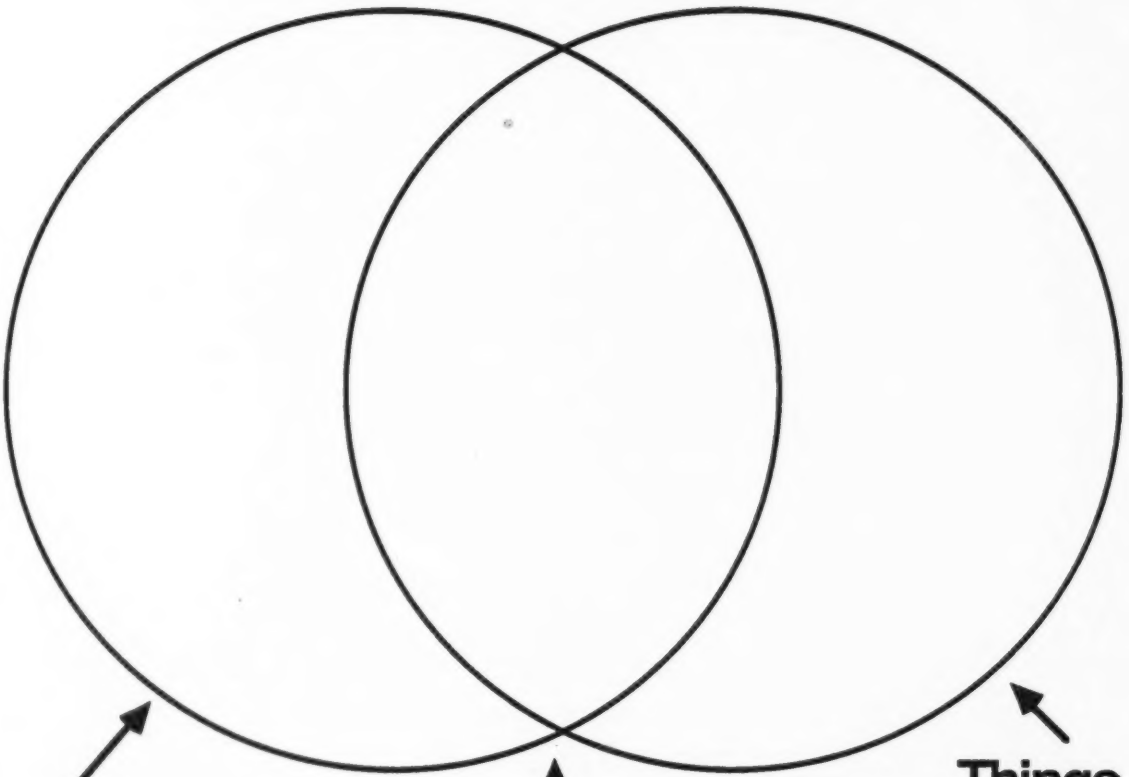
The circles could also overlap, and the things that are "fruits" and "yellow" would go in the center portion.



Draw in the things that are yellow and fruits.

4.

Try this one.
Use the words in the box below and draw or write them where they belong in the circles.



pizza frog cheese lettuce carrot popcorn tree candy grass plant cake beef

WORD LISTS

Write 5 words for each word list below.
The first one has been done for you.

color words

1. red
2. yellow
3. pink
4. blue
5. white

cold words

1. ice
2. _____
3. _____
4. _____
5. _____

weather words

1. _____
2. _____
3. _____
4. _____
5. _____

shape words

1. _____
2. _____
3. _____
4. _____
5. _____

Use three of your words to write a sentence:

_____

_____

_____

_____

How many things can you think of that belong in the group "toys"? Write their names or draw them below.

How many things can you think of that belong in the group "clothes"? Write their names or draw them below.

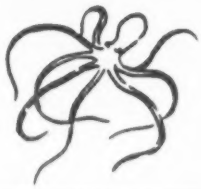
INSTRUCTIONS:

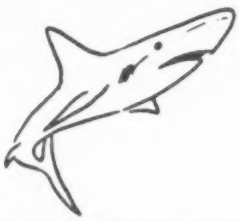
Read the clues and put an X in the box where each object belongs.

1. 's animal has many arms.

2. 's animal doesn't look like a horse.

3. 's animal is dangerous.





INSTRUCTIONS:

Read the clues and put an X in the box for each child's game.

1. likes to play catcher.

2. doesn't need shoulder pads.

	FOOTBALL	BASEBALL	SOCCER

9.

INSTRUCTIONS:

Draw six things that belong together as a group.

What is the name of your group? _____

_____